

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: IM-75-3(189) Gordon
P. I. No.: 610750
I-75 @ S.R. 156/Redbud Road Interchange

OFFICE: Engineering Services

DATE: September 6, 2007

FROM: Brian Summers, P.E., Project Review Engineer *REW*

TO: Babs Abubakari, P.E., State Program Delivery and Consultant Design Engineer

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES


Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
BRIDGE WORK (B)				
B-1	Remove end spans and use wall abutments	\$1,301,353	Yes	This should be done.
B-2	Build entire right side and shift traffic and then build balance of bridge	\$347,153	No	Would require additional width on the bridge that is not necessary to accommodate Staging.
PAVING (P)				
P-2	Use GDOT separation of 100' Limited Access	\$4,263,212*	No	The raised median is necessary to restrict left turn lanes from S.R. 56 EB to Adventist Drive. A Design Variance has already been approved by GDOT and FHWA for the configuration shown.
P-3	For future growth condition, use minimum 11' lane widths	\$618,165	No	Based on the high traffic volumes and high truck traffic, 11' lanes are not recommended.

ALT No.	Description	Savings PW & LCC	Implement	Comments
PAVING (P) - continued				
P-5	Delete right turn lane from Sta. 8+00 to Sta. 12+00 Eastbound S.R. 156	Design Suggestion	No	The Right Turn Decel Lane should be included to improve the overall operation of the Curtis Pkwy. Intersection.
P-6	Eliminate Concrete Paving on Ramps	\$645,878	No	Future maintenance costs would minimize the savings.
P-7	Use Keystone Wall in lieu of Poured-in-Place Concrete Retaining Wall	\$112,117	No	Current GDOT Bridge Office Policy is to not construct Modular Walls that support traffic because of concerns with settlement.
P-8	Eliminate all construction west of Curtis Drive	Design Suggestion	No	The additional construction is required in order to provide adequate taper lengths.
P-9	Provide additional left turn storage for north movement on S.R. 156	Design Suggestion	No	According to the traffic study, the storage provided is adequate.
P-11 and P-12 combined	Move SB On/Off Ramps to the east and NB On/Off Ramps to the west (move ramps closer together)	\$4,000,000*	No	The separation between Ramp termini should be as much as possible. A Design Variance has already been approved by GDOT and FHWA for the configuration shown.

* These estimated initial cost savings reflect the VE Team's estimate of \$4,000,000 for four (4) service station Right of Way acquisitions which could be realized.

A meeting was held on September 6, 2007 to discuss the above recommendations. Stanley Hill with Consultant Design and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Approved:  Date: 9/10/07
Gerald M. Ross, P. E., Chief Engineer

Approved:  Date: 9/18/07
for Rodney Barry, P.E., FHWA Division Administrator

IM-75-3(189) Gordon
P.I. No. 610750
VE Study Implementation
Page 3.

Attachments

c: Gus Shanine/Christy Poon-Atkins
Todd Long
Stanley Hill
Lonnie Jones
Doug Franks
Kenny Beckworth
Stephen Lively
Ken Werho
Kevin Wilson
Alexis John
Lisa Myers

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA



INTERDEPARTMENTAL CORRESPONDENCE

FILE: IM-75-3(189), Gordon County
P.I. No.: 610750
I-75 @ SR 156 In Calhoun and Widening of
SR 156/Redbud Road
[Signature]
FROM: Mohammed (Babs) Abubakari, P.E. State Program Delivery and Consultant Design Engineer
TO: Brian Summers, P.E., State Project Review Engineer
SUBJECT: Value Engineering Study-Responses

OFFICE: Consultant Design
DATE: August 13, 2007

Reference is made to the recommendations that are contained in the Value Engineering Study Report dated April 4, 2007 for the above referenced projects. Our responses and recommendations are as follows:

1. **Value Engineering Alternative No. B-1 – Remove end spans and use wall abutments.**
Approval of the VE Alternative No. B-1 is not recommended.
 - Adding the wall abutment will limit future expansions of the roadway and will not provide the same sight distances as bridges on end rolls, and are susceptible to settlement issues from the retained earth behind the wall and limit the relocation of Utilities.
2. **Value Engineering Alternative No. B-2 – Build entire right side and shift traffic and then build balance of bridge.**
Approval of the VE Design Suggestion No. B-2 is not recommended.
 - The proposed alternate requires three lanes of traffic in each direction separated by a temporary barrier located on one side of the bridge. This will require 37'-0" of horizontal clearance in each direction along with the temporary barrier (2'-6") for a total of 76'-6". The existing northbound lanes are 66'-9" gutter to gutter, thus a portion of the southbound traffic would remain on the southbound bridge (9'-3"). Therefore, the southbound bridge would need to be constructed (11'-3") wider to accommodate two stages with not cost savings.
3. **Value Engineering Alternative No. P-2 – Use GDOT separation of 100' limited Access.**
Approval of the VE Alternative No. P-2 is not recommended.
 - The intent of the raised median is to restrict left turns in close proximity to the interstate ramps and a Design Variance to TOPPS 4A-3 was recently approved by GDOT and FHWA for limits of access in this area. Since it would compromise operational safety of this intersection to eliminate the raised median. VE Study recommendation P-2 should not be implemented even if savings could be realized.

4. Value Engineering Alternative No. P-3 – For future growth conditions use minimum 11' lane widths.

Approval of the VE Alternative No. P-3 is not recommended.

- Due to the percentage of trucks and the overall vehicular traffic, 12' lanes is preferred for this project. The design year ADT approaches 34,000. The truck traffic on this section of SR 156 for a 24 hour period is 5%.

5. Value Engineering Design Suggestion No. P-5 – Delete right turn lane Sta. 8+00 to 12+00 East bound SR 156.

Approval of the VE Design Suggestion No. P-5 is not recommended.

- This goes against GDOT policy requiring right turn deceleration, when the posted speed is greater than or equal to 45 mph on multi-lane divided highways, right turn deceleration lanes shall be placed at paved public street intersections and direct entrances to major traffic generators. In addition, every effort should be made to replace existing right turn lanes at both public roads and commercial driveways. The benefits of including a turn lane may not always outweigh the impacts the turn lane will have on adjacent parcels.

6. Value Engineering Alternative No. P-6 – Eliminate concrete paving on Ramps.

Approval of the VE Alternative No. P-6 is not recommended.

- Utilizing asphalt for ramp paving instead of PCC will have a negative impact on the total life cycle cost of the project and all GDOT District 6 construction projects utilize PCC on interstate ramps as a matter of policy.

7. Value Engineering Alternative No. P-7 – Use Keystone wall in lieu of pour in place retaining wall.

Approval of the VE Alternative No. P-7 is not recommended.

The retaining wall envelope is appropriate for this location. However, it is current policy of the Bridge Office not to construct modular type walls which support traffic. The cast-in-place wall shown in the plans is appropriate for this location.

8. Value Engineering Design Suggestion No. P-8 – Eliminate all construction west of Curtis Drive.

Approval of the VE Design Suggestion No. P-8 is not recommended.

- The additional construction west of Curtis Drive is required to adequately provide the required taper lengths to tie-in the project on the Westside.

9. Value Engineering Design Suggestion No. P-9 – Provide additional left turn storage for north movement on 156.

Approval of the VE Design Suggestion No. P-9 is not recommended.

- The left turn storage is there to accommodate the left hand turn volume from Northbound SR 156 as analyzed in the current traffic study for the project; the length Provide is adequate.
- The Design Year PM Peak Hour volume turning left at this intersection is 475 vph and will require this storage length and will adequately handle this volume.

10. Value Engineering Alternative No. P-11 & P-12 combined – Move South Bound on/off to the East and the North Bound on/off Ramps to the west (moving ramps closer together).

Approval of the VE Alternative No. P-11 & P-12 is not recommended.

- This goes against GDOT's policy which requires that the minimum spacing distance of separation is provided between the ramp termini.

MBA: SH

Cc: Lisa Meyers, Design Review Manager, GDOT



Department of Transportation

ROUTING SLIP

Date 9/11/07

TO:

	ROOM NO.	OUT
(1) ✓ Christy Poon-Atkins, Federal Highway Administration	FHWA	9-18-07
(2) Brian K. Summers	266	
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		

TO FORWARD, STRIKE YOUR NAME, INITIAL AND DATE

☒ FOR SIGNATURE

☐ AS REQUESTED

☒ FOR APPROVAL

☐ PREPARE REPLY

☐ FOR INFORMATION

☐ FILE

☐ FOR COMMENTS AND
RECOMMENDATIONS

☐ MAIL

☐ FOR ACTION

☐ PLEASE ANSWER

☐ FOR DISCUSSION ON

☐ RETURN TO

____ (Date)

____ BY

____ (Date)

OTHER: _____

Recommended for Approval:

Christy Poon-Atkins - 9-18-07

FROM: rew-404-651-7470

Federal Highway Administration

RECEIVED
9/12/07

FM0095